

Claims

- [c1] 1. A method for detecting the presence of a target compound in a substance which may contain said target compound comprising:
- a) exposing a substance which may contain said target compound to a capture molecule capable of binding to said target molecule, wherein said capture molecule is immobilized on a solid support;
 - b) removing the remainder of said substance from said capture molecule:target molecule complex;
 - c) adding to said capture molecule:target molecule complex a reporter molecule capable of binding to said target molecule; and
 - d) detecting said capture molecule:target molecule:reporter molecule complex;
- wherein said capture molecule, said reporter molecule or both are a nucleic acid ligand to said target molecule.
- [c2] 2. The method of claim 1 wherein said reporter molecule comprises a detection system.
- [c3] 3. The method of claim 2 wherein said detection system is a nucleic acid ligand labeled with a fluorophore.
- [c4] 4. The method of claim 3 wherein said fluorophore is selected from fluorescein or Alexa.
- [c5] 5. The method of claim 1 wherein said solid support is selected from a microsphere particle or a membrane.
- [c6] 6. The method of claim 1 wherein said target molecule is a protein.
- [c7] 7. The method of claim 6 wherein said protein is selected from thrombin or L-Selectin.
- [c8] 8. The method of claim 1 wherein said capture molecule and reporter molecule are nucleic acid ligands.
- [c9] 9. The method of claim 1 wherein said capture molecule is a nucleic acid

ligand and said reporter molecule is a protein.

- [c10] 10. The method of claim 1 wherein said capture molecule and reporter molecules bind to separate non-overlapping sites on said target molecule.
- [c11] 11. The method of claim 1 wherein said reporter molecule binds to a site on said capture molecule:target complex.
- [c12] 12. The method of claim 1 wherein said substance is a biological fluid.
- [c13] 13. The method of claim 12 wherein said biological fluid is selected from plasma or urine.
- [c14] 14. The method of claim 1 wherein said detection is achieved by flow cytometry.
- [c15] 15. A method for detecting the presence of a target compound in a substance which may contain said target compound comprising:
- a) identifying a nucleic acid ligand from a candidate mixture of nucleic acids, said nucleic acid ligand being a ligand of said target compound, by the method comprising:
 - i) contacting the candidate mixture with said target compound, wherein nucleic acids having an increased affinity to said target relative to the candidate mixture may be partitioned from the remainder of the candidate mixture;
 - ii) partitioning the increased affinity nucleic acids from the remainder of the candidate mixture;
 - iii) amplifying the increased affinity nucleic acids to yield a ligand-enriched mixture of nucleic acids; and
 - iv) identifying said nucleic acid ligand;
 - b) exposing a substance which may contain said target compound to a capture molecule capable of binding to said target molecule, wherein said capture molecule is immobilized on a solid support;
 - c) removing the remainder of said substance from said capture molecule:target molecule complex;

d) adding to said capture molecule:target molecule complex a reporter molecule capable of binding to said target molecule; and
e) detecting said capture molecule:target molecule:reporter molecule complex;
wherein said capture molecule, said reporter molecule are a nucleic acid ligand to said target molecule identified by the method of step (a).

- [c16] 16. The method of claim 15 wherein said reporter molecule comprises a detection system.
- [c17] 17. The method of claim 16 wherein said detection system is a nucleic acid ligand labeled with a fluorophore.
- [c18] 18. The method of claim 17 wherein said fluorophore is selected from fluorescein or Alexa.
- [c19] 19. The method of claim 15 wherein said solid support is selected from a microsphere particle or a membrane.
- [c20] 20. The method of claim 15 wherein said target molecule is a protein.
- [c21] 21. The method of claim 20 wherein said protein is selected from thrombin or L-Selectin.
- [c22] 22. The method of claim 15 wherein said capture molecule and reporter molecule are nucleic acid ligands.
- [c23] 23. The method of claim 15 wherein said capture molecule is a nucleic acid ligand and said reporter molecule is a protein.
- [c24] 24. The method of claim 15 wherein said capture molecule and reporter molecules bind to separate non-overlapping sites on said target molecule.
- [c25] 25. The method of claim 15 wherein said reporter molecule binds to a site on said capture molecule:target complex.
- [c26] 26. The method of claim 15 wherein said substance is a biological fluid.

- [c27] 27. The method of claim 26 wherein said biological fluid is selected from plasma or urine.
- [c28] 28. The method of claim 15 wherein said detection is achieved by flow cytometry.
- [c29] 29. A method for detecting the presence of two or more target compounds in a substance which may contain said target compounds comprising:
- a) exposing a substance which may contain said target compounds to capture molecules, wherein each capture molecule is capable of binding specifically to a corresponding target compound, wherein said capture molecules are immobilized on a solid support;
 - b) removing the remainder of said substance from said capture molecule:target molecule complexes;
 - c) adding to said capture molecule:target molecule complexes reporter molecules; wherein each reporter molecule is capable of binding specifically to a corresponding target molecule; and
 - d) detecting said capture molecule:target molecule:reporter molecule complexes;
- wherein said capture molecules, said reporter molecules or both are a nucleic acid ligand to said target molecules.